Essential Physics of Medical Imaging, The

A guide to the fundamental principles of medical imaging physics, radiation protection and radiation biology, with complex topics presented in the clear and concise manner and style for which these authors are known.

This renowned work is derived from the authors' acclaimed national review course (“Physics of Medical Imaging”) at the University of California-Davis for radiology residents. Coverage includes the production, characteristics and interactions of ionizing radiation used in medical imaging and the imaging modalities in which they are used, including radiography, mammography, fluoroscopy, computed tomography and nuclear medicine. Special attention is paid to optimizing patient dose in each of these modalities. Sections of the book address topics common to all forms of diagnostic imaging, including image quality and medical informatics as well as the non-ionizing medical imaging modalities of MRI and ultrasound.

The book is ideal for medical imaging professionals, and teachers and students in medical physics and biomedical engineering. Radiology residents will find this text especially useful in bolstering their understanding of imaging physics and related topics prior to board exams.

Key features:
- Four-color layout throughout
- Basic line drawings help to explain concepts
- Comprehensive coverage of diagnostic imaging modalities
- Superb writing style of the author team helps make a difficult subject approachable and engaging

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